

## **AMENDMENTS TO THE CLAIMS**

1. (currently amended) A method for distinguishing a differentiated squamous cell lung cancer carcinoma from an undifferentiated lung cancer, carcinoma, which method comprises detecting p63 expression in cells from a lung ~~cancer~~ carcinoma, wherein p63 expression indicates that the lung ~~cancer~~ carcinoma is a differentiated squamous cell lung cancer carcinoma and the absence of p63 expression indicates that the lung ~~cancer~~ carcinoma is an undifferentiated lung ~~cancer~~ carcinoma.

2. (original) The method according to claim 1 wherein detecting p63 expression comprises detecting expression of p63 protein.

3. (original) The method according to claim 2 wherein detecting p63 protein expression comprises detecting the p63 protein with an immunoassay.

4. (original) The method according to claim 3 wherein the immunoassay is an immunohistochemical assay.

5. (currently amended) The method according to claim 1 wherein the differentiated lung carcinoma is selected from the group consisting of a poorly differentiated squamous cell carcinoma, a moderately differentiated squamous cell carcinoma, and a well differentiated squamous cell carcinoma, ~~an adenosquamous carcinoma, and an adenocarcinoma.~~

6. (currently amended) The method according to claim 1 wherein the differentiated lung cancer carcinoma is a poorly differentiated squamous cell carcinoma.

7. (currently amended) The method according to claim 1 wherein the undifferentiated lung cancer carcinoma is a small cell undifferentiated carcinoma.

8. (currently amended) A method of treatment of lung ~~cancer~~ carcinoma in a patient, which method comprises administering a chemotherapeutic agent to a patient diagnosed with a



potential, or a non-epithelial cell tumor, which method comprises detecting p63 expression in cells from a carcinoma, wherein p63 expression indicates that the carcinoma is a carcinoma of epithelial cells with squamous cell potential and the absence of p63 expression indicates that the carcinoma is a non-epithelial carcinoma or a carcinoma without squamous differentiation, squamous differentiation potential, or is a non-epithelial tumor.

~~19.~~ 17. (currently amended) The method according to claim 16, wherein the epithelial cells with squamous cell potential are selected from the group consisting of squamous epithelia, transitional cells, and glandular epithelia.

~~17.~~ 18. (currently amended) The method according to claim ~~16~~ 17, wherein the epithelial cells are glandular epithelia, and wherein the carcinoma without squamous differentiation potential is a glandular carcinoma.

~~18.~~ 19. (currently amended) The method according to claim ~~17~~ 18, wherein the glandular carcinoma is a renal carcinoma.

20. (original) A method for distinguishing a thyroid papillary carcinoma from another thyroid neoplasm, nodule, or enlargement, which method comprises detecting p63 expression in cells from a thyroid neoplasm, nodule, or enlargement, wherein p63 expression indicates that the neoplasm, nodule, or enlargement is a papillary carcinoma and the absence of p63 expression indicates that the neoplasm, nodule, or enlargement is not a papillary carcinoma.

21. (original) The method according to claim 20, wherein the neoplasm that is not a papillary carcinoma is a follicular adenoma, a medullary carcinoma, an anaplastic carcinoma, or a Hurthle cell carcinoma.

22. (original) A method for distinguishing a Hashimoto's thyroiditis from another thyroid inflammatory condition, which method comprises detecting p63 expression in cells from a thyroid inflammatory condition, wherein p63 expression indicates that the pathology is Hashimoto's thyroiditis.

